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14. ABSTRACT

The funding for this project was used to develop basic models, methodology and algorithms for the application of machine learning and related tools to settings in which strategic behavior is central. Among the topics studied was the development of simple behavioral models explaining and predicting human subject behavior in networked strategic experiments from prior work. These included experiments in biased voting and networked trading, among others

15. SUBJECT TERMS
machine learning, game theory, microeconomics, behavioral data

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a. REPORT	b. ABSTRACT	c. THIS PAGE			Michael Kearns
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Report Title

Final Report: Predicting Networked Strategic Behavior via Machine Learning and Game Theory

ABSTRACT

The funding for this project was used to develop basic models, methodology and algorithms for the application of machine learning and related tools to settings in which strategic behavior is central. Among the topics studied was the development of simple behavioral models explaining and predicting human subject behavior in networked strategic experiments from prior work. These included experiments in biased voting and networked trading, among others.

Enter List of papers submitted or published that acknowledge ARO support from the start of the project to the date of this printing. List the papers, including journal references, in the following categories:

(a) Papers published in peer-reviewed journals (N/A for none)

Received	Paper

TOTAL:

Number of Papers published in peer-reviewed journals:

(b) Papers published in non-peer-reviewed journals (N/A for none)

Received	Paper

TOTAL:

Number of Papers published in non peer-reviewed journals:

(c) Presentations

Number of Presentations: 0.00

Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received		Paper
01/13/2015	5.00	. Learning and Predicting Dynamic Behavior with Graphical Multiagent Models., AAMAS . 04-JUN-12, . : ,
TOTAL:	**1**	

Number of Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received		Paper
06/26/2012	3.00	Michael Kearns, Stephen Judd, Eugene Vorobeychik. Behavioral Experiments on a Network Formation Game, Electronic Commerce 2012. 04-JUN-12, . : ,
TOTAL:	**1**	

Number of Peer-Reviewed Conference Proceeding publications (other than abstracts):

(d) Manuscripts

Received		Paper
06/26/2012	4.00	Leonid Gurvits, Stephen Judd. The Social Will-Testing Game and its Solution, arXiv.org (06 2012)
TOTAL:	**1**	

Number of Manuscripts:

Books

Received Book

TOTAL:

Received Book Chapter

TOTAL:

Patents Submitted

Patents Awarded

Awards

Graduate Students

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Post Doctorates

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Faculty Supported

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Under Graduate students supported

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Student Metrics

This section only applies to graduating undergraduates supported by this agreement in this reporting period

The number of undergraduates funded by this agreement who graduated during this period: 0.00

The number of undergraduates funded by this agreement who graduated during this period with a degree in science, mathematics, engineering, or technology fields:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and will continue to pursue a graduate or Ph.D. degree in science, mathematics, engineering, or technology fields:..... 0.00

Number of graduating undergraduates who achieved a 3.5 GPA to 4.0 (4.0 max scale):..... 0.00

Number of graduating undergraduates funded by a DoD funded Center of Excellence grant for Education, Research and Engineering:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and intend to work for the Department of Defense 0.00

The number of undergraduates funded by your agreement who graduated during this period and will receive scholarships or fellowships for further studies in science, mathematics, engineering or technology fields: 0.00

Names of Personnel receiving masters degrees

NAME

Total Number:

Names of personnel receiving PHDs

NAME

Total Number:

Names of other research staff

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Sub Contractors (DD882)

Inventions (DD882)

Scientific Progress

Developed novel machine learning methodologies for applications involving multiagent strategic models, including for:

* Networked Trading

* Biased Voting

* Hidden Markov Models

Technology Transfer